

(19) World Intellectual Property
Organization
International Bureau



04 MAR 2005



(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/022801 A1

- (51) International Patent Classification⁷: C22C 1/05, 27/04 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/US2003/027439
- (22) International Filing Date: 4 September 2003 (04.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/408,087 4 September 2002 (04.09.2002) US
- (71) Applicant (*for all designated States except US*): OSRAM SYLVANIA INC. [US/US]; I.P. Law Department, 100 Endicott Street, Danvers, MA 01923 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): WINNICKA, Maria, B. [US/US]; 47 Pleasant Street, Sayre, PA 18840 (US).
- (74) Agent: CASTEL, Benoit; Young & Thompson, 745 St. 23rd Street, Arlington, VA 22202 (US).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

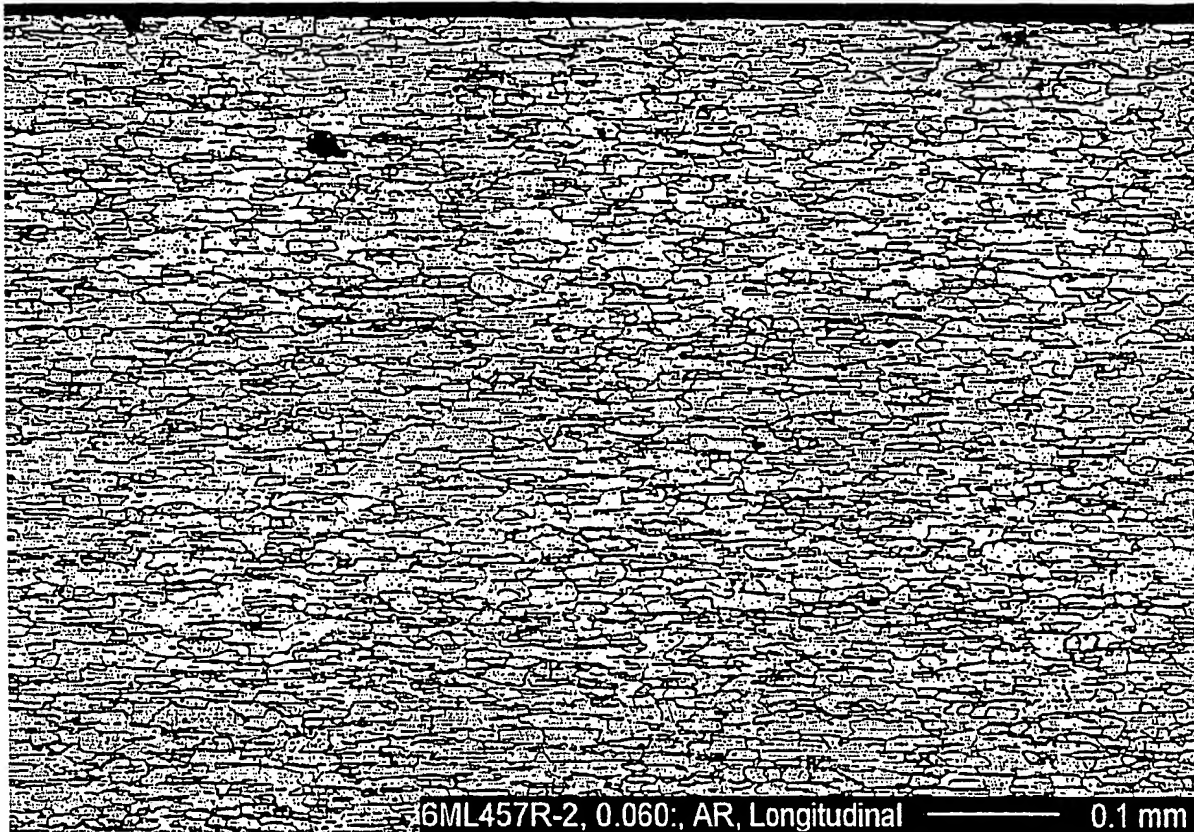
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD OF FORMING NON-SAG MOLYBDENUM-LANTHANA ALLOYS

(57) **Abstract:** A method for forming a molybdenum-lanthana alloy is described wherein a non-sag microstructure is achieved by mechanically working an as-sintered or recrystallized body to obtain a degree of deformation of from about 7% to about 18% and then subjecting the lightly worked body to a final recrystallization.

WO 2004/022801 A1

Fig. 1A



6ML457R-2, 0.060", AR, Longitudinal ——— 0.1 mm

Fig. 1B

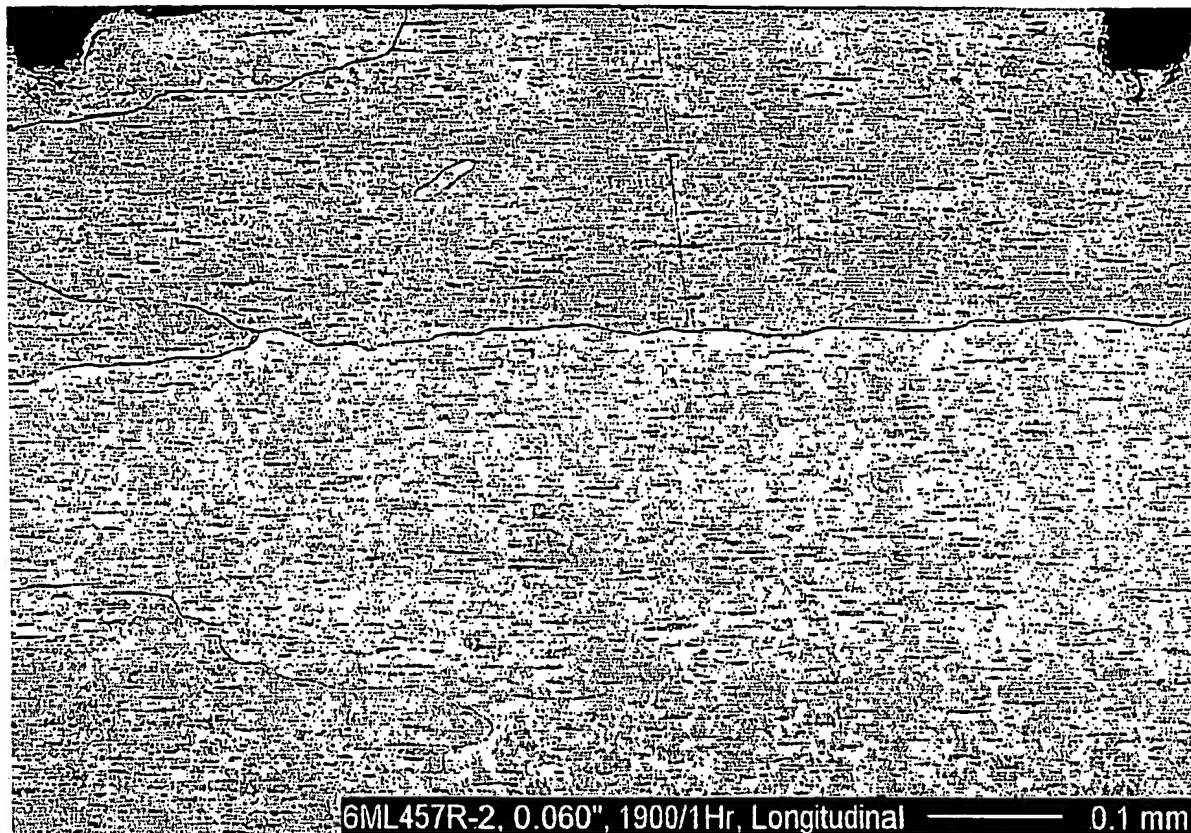
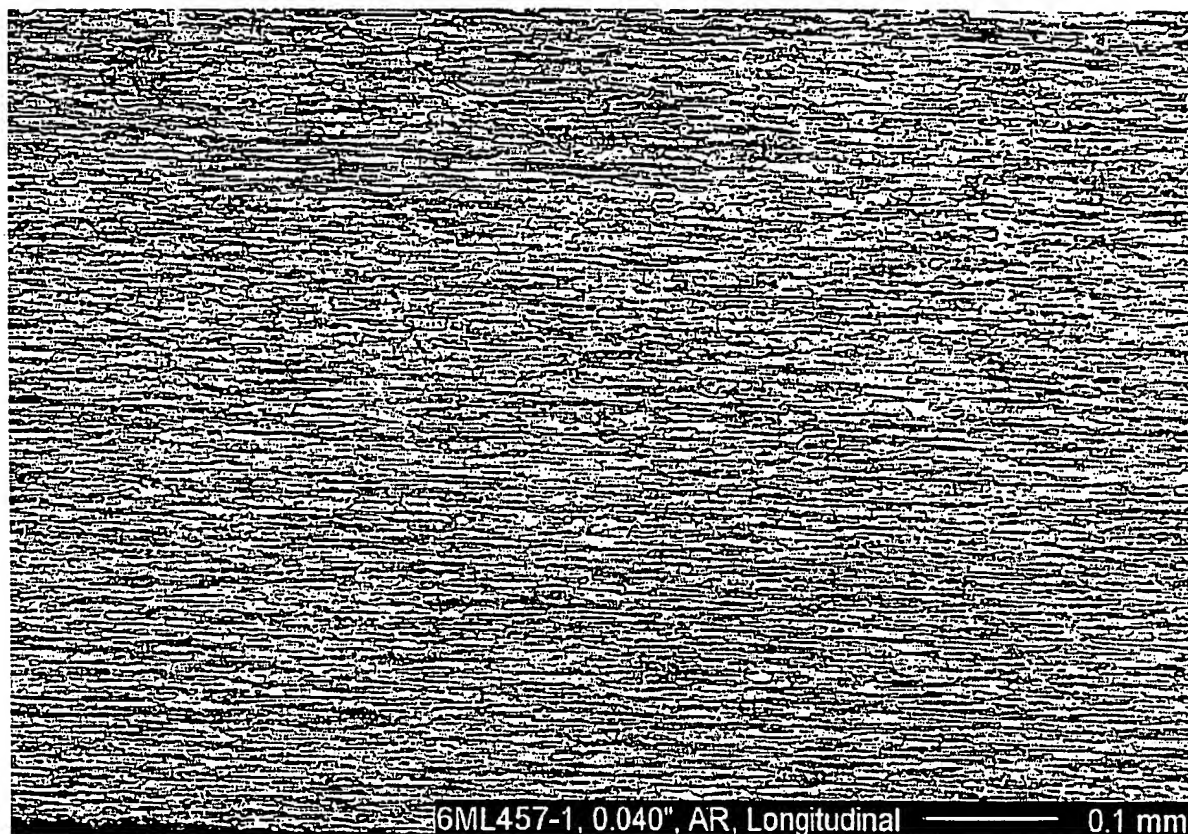
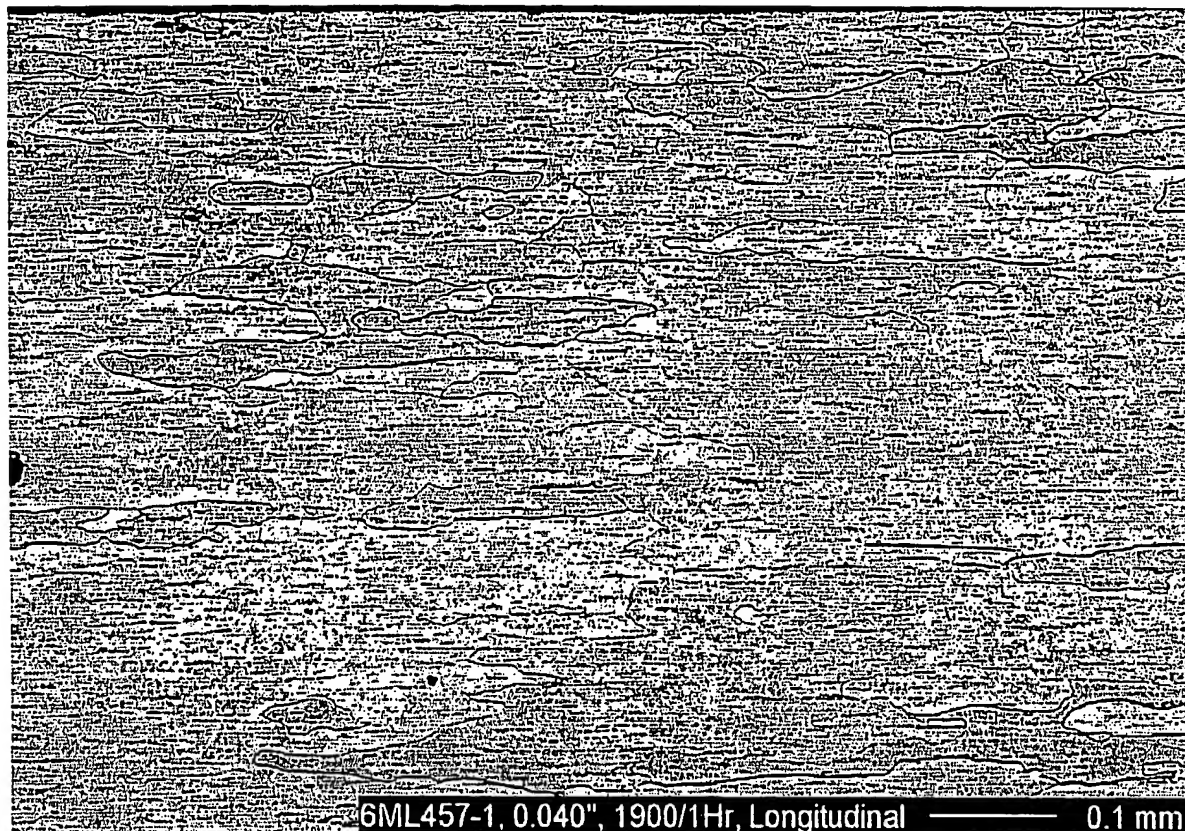


Fig. 2A



10/526480

Fig. 2B



6ML457-1, 0.040", 1900/1Hr, Longitudinal ——— 0.1 mm

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/27439

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C22C 1/05, 27/04

US CL : 420/429

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 420/429

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST: (molybdenum near alloy) and (lanthana or "lanthanum oxide")

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3,785,801 A (BENJAMIN) 15 January 1974.	NONE
A	US 4,950,327 A (ECK et al) 21 August 1990.	
A	US 5,134,039 A (ALEXANDER et al) 28 July 1992.	
A	US 5,435,829 A (FISTER et al) 25 July 1995.	
A	US 5,835,841 A (YAMADA et al) 10 November 1998.	
Y	US 5,868,876 A (BIANCO et al) 9 February 1999, col. 3, line 48 to col. 4, line 39.	1-17
Y	US 6,102,979 A (BIANCO et al) 15 August 2000, col. 3, line 12 to col. 4, line 13.	1-17

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"I"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"G"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 11 NOVEMBER 2003	Date of mailing of the international search report 09 DEC 2003
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer DANIEL J. JENKINS Telephone No. (703) 306-4151